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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/026,272	12/21/2001	Mahadev Somasundaram	CISCP272/5095	8100
22434	7590	10/04/2006	EXAMINER	
BEYER WEAVER & THOMAS, LLP			TRUONG, LAN DAI T	
P.O. BOX 70250			ART UNIT	
OAKLAND, CA 94612-0250			PAPER NUMBER	

2152

DATE MAILED: 10/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/026,272

Applicant(s)

SOMASUNDARAM ET AL.

Examiner

Lan-Dai Thi Truong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) 5, 16 and 27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-15, 17-26, 28-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/07/2006 has been entered.

2. This action is response to communications: application, filed on 12/21/2001; amendment filed 07/07/2006. Claims 1-39 are pending; claims 1, 2, 14, 25, 36 are amended; claims 5, 16, 27 are cancelled; claims 38-39 are added.

3. The applicant's arguments filed on 07/07/2006 have fully considered but they are moot in view with new ground for rejections

Claims objections

Claim 2 is objected to because of the following reasons: Claim 2 is amended

Claim rejections-35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a

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person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6-15, 17-26, 28-39 are rejected under 35 U.S.C 103(a) as being unpatentable over Crump et al. (U.S. 6,892,245) in view of Gelb (U.S. 5550984) further in view of Aysan et al. (U.S. 2003/0108041)

Regarding to claim 1:

Crump discloses the invention substantially as claimed, including a method, which can be implemented in a computer hardware or software code for perform network address translate on data, comprising:

Receiving a first data having a first source address and a first destination address, wherein the first data is sent by a first node in a first domain to a second node in a second domain, and wherein the first data is received into a first interface associated with the first domain and output from a second interface associated with the second domain, and wherein the first domain differs from the second domain: Crump discloses the method for communication between multiple address domains through "Network Address Translator (NAT)" which interfaces with different domains; the NAT receives a network packet through a NAT interface, translates network packet's source address and destination address before transmitting the packet to different domains destinations. In figure 1, "host x" which is equivalent to "first node" in "address domain 1" which is equivalent to "first domain" can communicate with "host z" which is equivalent to "second node" in "address domain 3" which is equivalent to "second domain: (figure 1; figure 3; figure 2A, 2B, 2C, 2D; column 3, lines 35-45; column 4, lines 1-10; column 10, lines 37-45; column 14, lines 20-25)

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Obtaining routing information for the first data: Crump discloses the addresses translation tables used to obtain routing information for “the packet” which is equivalent to “the first data”: (figure 2A, 2B, 2C, 2D)

Translating the first source address into a first public address: Crump discloses the NAT translates “a source host local address” which is equivalent to “the first source address is private” to “source host global address” which is equivalent to “first public address”: (Figure 3, item 308; column 3, lines 44-49; column 4, lines 1-10; column 5, lines 45-67; column 6, lines 1-24; column 10, lines 37-45)

Translating the first destination address into a first private address: Crump discloses the NAT is used to translate a destination global address into a destination local address before routing the packet to the destination: (column 3, lines 30-61; column 4, lines 1-10; figure 3, item 310)

Wherein the translation of the first destination address is performed prior to sending the first data out the second interface to the second node; sending the first data to the second node based on the routing information: Crump discloses using NAT to translate network address before packet is routed to its intended destination: (column 3, lines 35-45)

However, Crump does not explicitly disclose forming binding between private address, interface and public address

In analogous art, Gelb discloses binding between interface adapter with private address and public address: (column 5, lines 25-35)

However, Crump-Gelb does not explicitly disclose translating network addresses based upon binding between private address, public address and interface

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In analogous art, Aysan discloses method for mapping/translation network addresses from/into private/public addresses based upon binding between private addresses, public addresses and interfaces: ([0042]-[0050])

Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate Gelb's ideas of binding between interface adapter with private address and public address with Aysan's ideas of mapping/translation network addresses from/into private/public addresses based upon binding between private address/ public address and interfaces with Crump's system in order to provide a higher secure network addresses translation system due to reduce configuring errors (Aysan: [0009])

Regarding to claim 14:

Crump-Gelb-Aysan discloses a system as discuss in claim 1, which further includes

One or more processor: Crump discloses a packet processor process packets received over a network: (column 15, lines 10-45)

One or more memory: Crump discloses a tangible storage device such as semiconductor memory, a magnetic memory...etc: (column 20, lines 39-50)

Regarding to claim 25:

This claim is rejected under rationale of claim 14

Regarding to claim 36:

This claim is rejected under rationale of claim 1

Regarding to claim 3:

In addition to rejection in claim 1, Crump-Gelb- Aysan further discloses the first public address is selected from a pool of available public addresses: Crump discloses a pool of global

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addresses is used to select and create both source address translation entry and a corresponding destination address translation entry: (column 7, lines 41-67)

Regarding to claims 11, 22, 33, those are exemplary with claims 12, 23, 34:

In addition to rejection in claims 1, 14, 25, Crump-Gelb-Aysan further includes wherein at least one of the processors and memory are further adapted to track which interfaces may communicate with which other interfaces: Crump discloses a NAT interface table is used to configure and control the set of interfaces that are participating in network address translation: (column 16, lines 59-67)

Regarding to claims 13, 24 and 35:

In addition to rejection in claims 12, 23, 34, Crump-Gelb- Aysan further includes wherein at least one of the processors and memory are further adapt to select a pool of public addresses for each group: Crump discloses a tangible storage device such as semiconductor memory, a magnetic memory...etc, and a packet processor process packets received over a network. Crump also discloses a pool of global addresses is used to select and create both source address translation entry and a corresponding destination address translation entry: (column 15, lines 10-45; column 7, lines 41-67; column 20, lines 39-50)

Regarding to claim 6, 17, 28 and 37:

In addition to rejection in claims 1, 14, 25 and 36, Crump-Gelb- Aysan further discloses DNS payload address, wherein DNS reply received into the second interface and output from the first interface: (Crump: column 8, lines 1-67; column 9, lines 1-44)

Regarding to claims 2, 4, 7, 15, 18, 26, 29, 38-89:

This claim is rejected under rationale of claims 1, 14, 25

Regarding to claims 8, 19 and 30:

In addition to rejection in claims 7, 18, 29, Crump-Gelb- Aysan further discloses the source pointer referencing a null value indicates that the source address of the first subsequently received data does not require translation: (figures 2A, 2B, 2C, 2D)

Regarding to claims 9, 20 and 31:

In addition to rejection in claims 8, 19, 30, Crump-Gelb- Aysan further comprising modifying the first binding, wherein the first binding is modified and the second binding is formed by:

Creating a second entry in the first table that includes a second identifier for both the first source address and the second public address, a destination pointer that references information on how to translate a destination address of a second subsequently received data from the second public address into the DNS payload address, and a source pointer that references information on how to translate a source address of the same second subsequently received data from the first source address into the first public address: Crump discloses the relationships between tables 2A, 2B, 2C, 2D in order to obtain the desired addresses for routing packets to the destination: (figures 2A, 2B, 2C, 2D)

Creating a third entry in the first table that includes a third identifier for both the DNS payload address and the first public address, a destination pointer that references information on how to translate a destination address of a third subsequently received data from the first public address into the first source address, and source pointer that references information on how to translate a source address of the third subsequently received data from the DNS payload address into the second public address: Crump discloses the relationships between tables 2A, 2B, 2C, 2D

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in order to obtain the desired addresses for routing packets to the destination: (figures 2A, 2B, 2C, 2D)

Regarding to claims 10, 21 and 32:

In addition to rejection in claims 9, 20, 31, Crump-Gelb- Aysan further includes wherein the destination and source pointers each reference a pair having a private address of a particular interface and a corresponding public address, wherein the pair provide pre-translation and post-translation addresses for a particular source or destination address: Crump discloses the correlations between source addresses such as local source addresses or global source addresses, destination addresses such as local destination addresses or global destination addresses and interfaces: (column 10, lines 37-45; column 11, lines 40-67; column 12, lines 49-67; column 13, lines 1-5; column 14, lines 15-42; column 15, lines 25-45)

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents and publications are cited to further show the state of the art with respect to "APPARATUS AND METHODS FOR PERFORMING NETWORK ADDRESS TRANSLATION (NAT) IN A FULLY CONNECTED MESH WITH NAT VIRTUAL INTERFACE (NVI)": 6944167; 20020116523.

Conclusions

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lan-Dai Thi Truong whose telephone number is 571-272-7959.

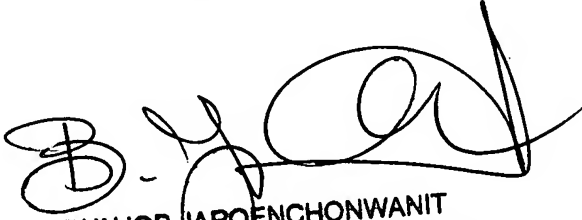
The examiner can normally be reached on Monday- Friday from 8:30am to 5:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob A. Jaroenchonwanit can be reached on 571-272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

09/25/2006



BUNJOB JAROENCHONWANIT
SUPERVISORY PATENT EXAMINER